

22 August 1962

MEMORANDUM FOR: Chief, Technical Plans and Development Staff
THROUGH: Chief, Technical Development Branch
SUBJECT: Staff Study, "Overhaul of [] Comparator" 25X1A

25X1A1. PROBLEM

25X1A Should the [] type 621 Comparator be checked for possible overhaul
25X1A prior to moving to [] and be recalibrated in setting up in []

2. FACTS

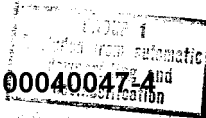
25X1A The [] Comparator, located in TID/TAB, has been in constant use for approximately five years without periodic calibration tests and with minimum maintenance. Due to the accuracy required of this instrument, it is necessary that it be maintained as close as possible to its theoretical accuracy of ± 1 micron.

3. DISCUSSION

25X1A Because of the lack of trained personnel and the continuous duty use the comparator has received, it has been impossible to perform the necessary calibration procedures to maintain the instrument in top condition. It is, therefore, necessary that a calibration check be made to determine if the instrument requires overhauling. This can best be done by scheduling the calibration check, and overhauling if necessary, with the move to []

In addition, a special moving sled is required when transferring the equipment from one location to another. This is necessary to insure that the instrument frame is not twisted in handling. If overhauling is necessary, the workload can be handled on the RIC/1s during the interim period.

25X1A The attached proposal was solicited from the [] to perform the necessary calibration checks and possible overhaul. It is broken down in three parts. Part I is the preliminary inspection and preparation for shipment. Part II consists of installing the comparator in [] and calibrating. The cost of Parts I and II is [] each. If overhauling is required, Part III is necessary and Part II is not required. The cost of overhauling, installing and calibrating is []



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4. CONCLUSIONS

25X1A TID has recommended that necessary steps be taken to insure the continued use of the comparator in the best possible condition. The [] manufactured the comparator and is considered the most capable organization to perform the services as outlined in their proposal.

5. RECOMMENDATIONS

25X1A It is recommended that NPIC negotiate a contract for [] with the [] on a fixed fee redeterminable downward basis. The date on which the service provided by the contract is to commence must be coordinated with the move to []. An option should be included to allow the [] with approval of the technical monitor, to proceed with either Part II or Part III based on the findings of Part I.

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As per your request, we are please to quote you on moving and possibly overhauling your [REDACTED] Type 621 Comparator. The quote is broken down into three parts of which only two will be used depending upon the requirement for overhauling.

Part I We will prepare the [REDACTED] Type 621 shipping crate and ship it to your facility. An engineer will fly to Washington after the crate arrives and calibrate the comparator to determine if there are any gross errors and evaluate the condition of the comparator. He will crate the comparator for shipment either to your new location in the Washington, D. C. area or to our plant in [REDACTED] for overhaul.

Cost of Part I [REDACTED]

Part II If the comparator is not to be overhauled, it will be shipped to your new location, transportation supplied by the U. S. Government. The engineer will uncrate, clean, lubricate, and calibrate the comparator. Calibration curves will be furnished, but the error will not be compensated unless possible with adjustments available. The U. S. Government will return the shipping crate to our plant in [REDACTED] via Railway Express collect for restocking.

Cost of Part II [REDACTED]

Part III If the comparator requires overhauling, it will be shipped by the U. S. Government to our plant in [REDACTED] via Railway Express collect for further evaluation of costs for replacing damaged parts. (A description of normal overhaul

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procedure will follow). The comparator will be overhauled, returned to your new facility; set up by a [redacted] engineer and calibrated. The U.S. Government will return the shipping crate to our plant in [redacted] via Railway Express collect for restocking.

Cost of Part III [redacted]

A normal overhaul procedure is as follows:

1. Complete disassembly.
2. Inspect and replace all parts defective due to normal wear. (We can not include the cost of replacing damaged parts since we do not know if any exist and if they do, to what extent they are damaged. Through past experience, we have a good feeling for what parts must be replaced due to normal wear.)
3. Repaint the castings.
4. Refinish all nickled parts.
5. Relap both X and Y axis lead screws and refit the precision nuts.
6. Rescrape all guiding ways and locating pads.
7. Replace all ball bearings.
8. Replace electrical switches, motors and other parts considered necessary.
9. Reassemble the comparator.
10. Calibrate.

The overhaul process will take 60 days after the comparator reaches our plant.

Part I can be started 15 days after receipt of order. Terms are net 30 days.

Very truly yours,

[redacted]